

Old American Zinc Plant Superfund Site Review Comment Tracker

This spreadsheet provides responses to the comments received from IEPA, USEPA and USACE on the Old American Zinc Plant Superfund Site Facility Area Prefinal Basis of Design Report (Prefinal BODR) and the Old American Zinc Plant Superfund Site Facility Area Final Basis of Design Report (Final BODR). Comments on the Prefinal BODR were received on June 20, 2018 both within a Word document (USEPA) and embedded within a PDF file of the BODR (USACE). The comments were compiled from those sources and are summarized in the following table. Comments on the Final BODR were received on November 15, 2018 and are also summarized in this table. Following adjudication of these responses, comments will be incorporated and the Final BODR will be revised.

Comment Number	Reference Page or Sheet No.*	Reviewer	Review Comment	Response	Backcheck/Notes	EPA Review of Comment 11/15/18	CH2M Response 12/21/18
1	1. Section 3.5.2.4 Tarry Material	USEPA	Tarry material was tested during the PDI and was determined to be non-hazardous and can be disposed of on-site. The texts and corresponding costs should be changed as such. See PDI 3.2 Tarry Material Waste Characterization	Section 3.5.2.4 will be updated to state: "Tarry material may be present mixed with demolition debris and in localized areas across the footprints of former smelter buildings. Tarry materials were tested during the Preliminary Design Investigation and were determined to be nonhazardous. As a result, the materials will be disposed of in the consolidation area. "	Concur		--
2	2. Section 3.5.2.11 Site Restoration	USEPA/IEPA	This section states a 12-inch-thick layer of topsoil will be placed over the entire site, including the consolidation, and will be restored as described in Section 3.6. Is there a reason that 12 inches of topsoil for the entire site was chosen? The cost for topsoil is estimated at \$10,458,000, which is about 1/3 of the total cost. In comparison, Eagle Zinc calls for 6 inches of topsoil for the site. 6 inches of topsoil should be sufficient for the non-consolidation area.	The initial design used 12 inches of topsoil in their initial design so that was what was incorporated into this design. However, to be consistent with the comments and the Eagle Zinc Superfund Project, we will change the topsoil thickness to 6 inches. The text, drawings, and cost estimate will be updated accordingly	Concur	Not updated correctly. The final design appears to have changed the text and the consolidation area to only have 6-in of top soil instead of 12 inches. This is inconsistent with the review comment and the ROD. The comment indicates 6-inches of top soil for the non-consolidation area. Section 3.5.2.10 states the vegetative layer is 6 inches instead of 12 inches as indicated in the ROD. Appendix A states 12 inches. Drawing C-301 and C-502 indicates 6 inches. Section 31 23 23 Fill and Backfill states 12 inches of fill. Per discussion, it should be still be in accordance with the ROD. 12 inches on the consolidation area and 6 inches outside the consolidation area.	The design will be updated to require 12" of topsoil above the 24" low-permeability clay cover within the consolidation area (for 36" total thickness, in accordance with the ROD). Outside of the consolidation area, six inches of topsoil will be placed above final subgrade design elevation. The final specifications state that topsoil will be mixed with the top 4 inches of subgrade. The specifications will be revised remove mixing of these materials to provide a 36" cover, consistent with the requirements of the ROD.
3	O&M	USEPA	O&M appears to be missing O&M for groundwater and surface water monitoring in the cost and the text? The groundwater portion of the remedy also appears to not be included in the text? It should include the groundwater management zone (GMZ) and what is needed to establish the GMZ, as well as, the groundwater monitoring plan to be established? Institutional controls, easements, titles, etc. are also missing from the document. The following appear to be missing: <ul style="list-style-type: none">• Implementation of groundwater restrictions to prohibit well installation and use of shallow affected groundwater.• Surface water monitoring to verify the effectiveness of the remedy on reducing transport of COCs via stormwater run-off to the man-made ditches.• Groundwater monitoring to ensure that COCs in shallow groundwater are not migrating off the Facility Area at concentrations exceeding upgradient concentrations. If a statistically significant increase in groundwater concentrations is observed over time, the remedy will be re-evaluated.• Establishment of a groundwater management zone pursuant to regulations in the Illinois Administrative Code related to Groundwater Quality (35 IAC, Subtitle F, Chapter 1, Part 620).	From the ROD, the following components of the selected remedy will be included: <ul style="list-style-type: none">• Institutional Controls (ICs) in accordance with the Illinois Uniform Environmental Covenants Act to achieve the following: 1) prohibit future residential land use on the 35- acre consolidation area and select off-site properties that are not likely to be used for future residential development; 2) control access to engineered components of the remedy and prohibit intrusive activities in capped areas to maintain the effectiveness of the cap; and 3) prohibit the installation of potable wells and use of shallow groundwater within the affected groundwater plume until all groundwater cleanup standards have been achieved to ensure long-term protection of human health.• Stormwater and groundwater monitoring will be included in the O&M section• Implementation of long-term operation and maintenance (O&M) activities to maintain the integrity of the cover system and other components of the remedy will be added• A groundwater management zone will be established pursuant to regulations in the Illinois Administrative Code related to Groundwater Quality (35 IAC, Subtitle F, Chapter I, Part 620).	EPA is planning to do an ESD that includes an institutional control for the buildings and parking lots around the main building. These ICs should also be included.	This comment was not incorporated completely. The text was not updated to include the engineering controls for the buildings and parking lots. A figure with all the ICs should be included. The cost was not updated to include groundwater or stormwater monitoring, nor groundwater management zone (and maybe ICs) as indicated in the original comment.	Figure 2-2 will be added to the Final BODR as submitted to EPA on 11/14/2018 and the text will be updated to include the engineering controls for the building and parking lots. Costs for groundwater and stormwater monitoring will be added to the revised final cost estimate. The costs will assume 4 groundwater and 4 stormwater locations. Sample locations will be selected after completion of the RA, and detailed in a groundwater and surface water monitoring plan, which will added as a submittal requirement in Section 01 11 00, Summary of Work.
4		USEPA	According the PDI, the groundwater elevation at MW-03 is 414.78, however reflects a perched saturated zone. The consolidation area is to be excavated to 410. Please check if this area affects that assumption and if perched water will be encountered	Perched water may be encountered and the contractor will be responsible for dewatering necessary to continue work. The grades in the bottom of the consolidation area have been modified to assist drainage to a low point for pumping.	Concur		--

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5	Appendix F Engineer's Estimate of Construction Cost	USEPA	A 25% contingency on a Draft Final Design document appears to be high. It references an EPA Guidance document though it does not indicate which one. EPA's guidance document: A Guide to Developing and Documenting Cost Estimates During the Feasibility Study, July 2000, indicates having a 25% contingency (10% scope contingency and 15% bid contingency) as an example in for an Feasibility Study cost estimate. It is assumed that the cost estimate's 25% contingency is 10% scope contingency and 15% bid contingency. The document does not indicate what contingency comprises of 25%. At the pre-final and final design phase, the contingencies shouldn't be as high. The guidance indicates that in general, scope contingency should decrease as design progresses and should be 0% at the 100% design stage. The guidance also indicates that bid contingency typically ranges from 10 to 20 percent. On top of the contingency, this cost estimate also indicates a class 4 range of -30%/+50%. Shouldn't the cost be closer to actual costs in the final design rather than anywhere from approximately \$34 million to \$73.5 million? Are you double counting contingencies? According to the guidance document, by the Final Design, it should be at a -10%/+15% cost range.	When the cost estimate is refined to a Class 2 estimate, the range will tighten to -10%/+15%. Contingency, Bond, PM, Design, CM, and O&M Costs will be reduced as well.	Concur	A +20%/-15% range is included in the Final Design. Ok if more accurate.	A -10%/+15% range is within the range for a Class I cost estimate, which would require obtaining bids to complete. Per CH2M's Work Plan, a Class 2 estimate will be submitted with a range of -15%/+20%.
6	Appendix F Engineer's Estimate of Construction Cost	USEPA	The cost estimate also includes approximately \$2.5 million for Design. The guidance document mentioned above indicates an estimated 6% for Remedial Design. Is this for Remedial Design or is this for design during construction? Or another Remedial Design? Since this is the Remedial Design, why is it included in the costs? The cost for Remedial Design of the Facility Area was not near \$2.5 million.	The design cost includes time for the design team to review and approve submittals, review/respond to RFIs, and join meetings with the subcontractor to discuss potential changes. When this goes to a Class 2 estimate, we will prepare a bottoms up estimate for these costs which will result in a reduction of the \$2.5 million. The line item will also be changed from "design" to "post-design support".	Concur		--
7	Appendix F Engineer's Estimate of Construction Cost	USEPA/IEPA	Pre-construction Activities, Permitting is listed as a lump sum of \$9,000. CERCLA NPL sites are exempt from permits so it is unclear what permits would be needed.	This line item will be removed.	Concur		--
8	Appendix F Engineer's Estimate of Construction Cost	USEPA/IEPA	The cost for clearing and grubbing is listed as a lump sum of \$7,000 which seems pretty low for the areas that will need or potentially need clearing, such as the residential soil stockpile area, former building footing areas and the fence line areas. It might be better to cost out per acre of clearing.	This line item will be revised to \$4300/acre, because the site isn't covered with large trees. Costs based on RSMMeans.	Concur	\$5,269 per acre was used instead. Ok if more accurate.	Contractor fees and markups are included in the \$5,269 per acre cost.
9	Section 2.2	USEPA	Section 2.2 indicates that the property owner is "XTRA Intramodal". It should be "XTRA Intermodal, Inc." as the primary owner of the Facility Area. It should also be noted that several parcels in the Facility Area are owned by other parties including residents, St. Clair County, the Village of Fairmont City, etc.	A new paragraph has been added stating: "Although the property owner for the purposes of this remedial action is XTRA Intramodal, Inc., there are several parcels within the project area that are not owned by XTRA Intramodal, Inc.. These parcels are owned by residents, St. Clair County, and the Village of Fairmont City among others. Before work proceeds, access will be obtained from all property owners for every parcel included in the work."	This comment was meant particularly for the spelling. It should be XTRA Intermodal, Inc.	XTRA Intermodal is still spelled wrong.	The spelling was corrected in Section 2.2.
10		USEPA	The document assumes access for all parcels in the Facility Area has been obtained. It should mention that access will need to be obtained by each owner prior to construction taking place.	See response to comment 9.	Concur		--
11	Section 3.4.1.7	USEPA	Is a geotextile fabric necessary? Isn't most of the truck movement within the site? The Surrounding Properties Basis of Design Report does not include this for the entrances. It states best management practices.	Geotextile is not necessary and will not be included for stabilized construction entrance.	Concur		--
12	Table 4-1	USEPA	The table should include the ARARs for notification and consultation with the Fish and Wildlife Conservation Act and with the National Historic Preservation Act. Table 4-1 limits it to the Migratory Bird Treaty Act, however excavation does include portions of Rose Creek which could include other consultations with the U.S. Fish and Wildlife Service.	The Fish and Wildlife Conservation Act, Fish and Wildlife Coordination Act and National Historic Preservation Act will be added as ARARs.	Concur	The USFWS needs to be updated with the most recent letter which updates the Indiana bat dates. Revised consultation letter and concurrence included.	Table 4-1 was updated with appropriate tree clearing dates to protect T&E species.

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13	Drawing C-001 and C-002	USEPA	The drawing shows an existing site fence to the south, however it does not show the existing fence line to the north. It appears to the reader that the dashed line around the Facility Area would be the existing site fence, but that is not accurate. Same with Drawing C-002. It should indicate the difference between the existing site fence and the fence that would need to be installed. Drawing C-002 has a site security fence that indicates Maryland Avenue will be blocked. Maryland Avenue should not be blocked. The northern portion of the site that will be residential to the North of Maryland Avenue should be treated similarly to residential properties (though the excavation depth/remediation may be slightly different). Same with the parcels outside the existing fence line not owned by XTRA which will also be residential.	Existing fence lines will be updated to match what is currently on site using Google street view and the drawing set from Arcadis (which is what all of our drawings are based off of). Line types will be better distinguished between existing, new permanent and new temporary fencing. Fences in the northern portion of the site will be updated to reflect keeping Maryland Avenue open.	Concur	Drawing C-001 still indicates an incorrect fence line. Drawing C-101 and other drawings appear to have been updated correctly. Or is this supposed to be a new fence? If so, why?	The purpose of Drawing C-001 is to show the temporary crossing of Maryland Avenue. The contractor will need to use this drawing, or similar, to obtain a permit for temporary road closure. Drawings C-205 and C-206 depict the work to be done to obtain final site conditions. The final fence alignment will be consistent with the existing fence alignment, except the fence bordering the slag stockpiles to the north will be removed. <u>Please confirm proposed final fence alignment is acceptable as shown in Attachment "RTC 013 Fence Alignment".</u>
14	Drawing C-003 and Figure 2-1	USEPA	This drawing indicates that parcels to the northeast not owned by XTRA will have general fill stockpiled there. Access has not been given to these properties for remediation or stockpiling. If an area where stockpiling could occur on XTRA's property alone that would be best to control. Many individual owners may be difficult to control. Also, ownership could change throughout the construction period. If the entire area is needed for a general fill stockpile, please let EPA know ASAP so that we can try to get specific access to be able to stockpile in that area. Also, the general fill stockpile is partially outside the existing fencing. Will refencing be required?	The stockpile boundaries will be updated to reflect the changes to the fencing as discussed in comment 54. All of that area is needed for the stockpile. A note has been added to the BOD stating that there are parcels within the FA not owned by XTRA Intramodal, Inc. and that access will need to be given before work proceeds	Concur	Figure 2-1 has been modified and is now confusing. Why is the contractor staging no longer the entire parking lot around the main building and only a portion of it? See response to comment 3. Are spoils locations the other areas in black? Why not use a different color to differentiate? What is the spoils area? It's not explained in the text. The text should be consistent with the figures. Are these the stockpile locations to store excavated clay? If so, the areas do not seem large enough to store 370,000 cy of clay and several locations are outside of the fence line and in an empty lot near residential areas. That does not seem feasible.	The contractor staging area will be revised to include the parking lot around the main building. The spoils areas are for staging/stockpiling chipped wood, pulverized concrete, etc. Due to the quantities of materials expected during the FA RA, delineation of optional spoils areas will be removed from the drawings. This will also allow the contractor flexibility to determine the best location for these materials during RA, based on timing and placement of materials during the surrounding properties RA. A note will be added to the site support drawings, and clarified in the BODR narrative, that the contractor will coordinate with surrounding properties contractor for locating potential stockpiles / spoils piles.
15	Drawing C-003 and Figure 2-1	USEPA	This drawing shows that the staging area includes the front and back of the XTRA building as a staging area. According to Figure 19 of the Remedial Investigation Report, the parking lot behind the XTRA building requires excavation. The Record of Decision does not include institutional controls for the parking lot. Does the design assume the back parking lot will remain in place? It also appears that the boring in the front parking lot has exceedances above industrial cleanup goals for the site. It may be best to include an institutional control for the main building and the parking lots in front and behind. Do the other buildings need ICs? The ICs will then have to be placed into the next decision document. Please verify that this is the case.	It will be up to the Contractor to set up the staging area according to the equipment and facilities that they require. Regardless of where they set up, they will be required to make sure that they are setting up on clean portions of the site, or excavate and remove contaminated soil to ensure they are on clean soil. Buildings will not be used for staging.	It is anticipated that the ESD that EPA will issue to document the change in cost of the remedy will also indicate that the existing buildings and parking lot both front and back will have an institutional control and excavation will not occur. Please update the document to include this in the text and figures. In such instance, the staging area can remain as indicated in the BODR.	The contractor staging area was not incorporated as discussed in the comment. The parking lot around the main building will remain and can be used as a contractor staging area as indicated in the pre-final design. See comment above.	Delineation of the staging area will be changed back to the entire parking lot.
16	SECTION 01 33 00 SUBMITTAL PROCEDURES – Section 1.02 A	USEPA	Indicates contractor direct submittals to Rachel Grand. Do these need to go through EPA first? Is this assuming EPA has an ongoing contract with Jacobs throughout construction?	The final BODR will indicate that submittals will be sent to USEPA.	Concur		--

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17		USEPA	According to the ROD, the clay used for the cover system should be a 24-inch low permeability, compacted soil barrier layer with a hydraulic conductivity no greater than 1x10 ⁻⁷ . Is this the case for the clay that is used for the cover? I did not see a reference to the hydraulic conductivity listed in the report.	The soil properties specified for the clay used in the liner are ones that typically accompany the permeability less than 1x10 ⁻⁷ cm/s requirement. Permeability testing was not added due to the cost, and ensuring the index properties meet the requirements is generally just as acceptable. However, a permeability requirement can be added into the specs along with a testing frequency.	If the soil properties of the clay indicate it as such and it is adequate, that is acceptable.		--
18	Drawing C-006	USEPA	Drawing C-006 shows slag under the XTRA building and parking lots to be excavated. See comment on Drawing C-003.	Drawings will be updated such that no excavation and/or grading is performed at structures to remain in place.	See EPA Response to Comment 3 and 15	This drawing was divided into two separate drawings. Drawing C-104 should be modified to not include the parking lot around the building since it is poor condition..	Excavation limits / Limits of disturbance will be adjusted around the existing buildings to remain as delineated by their institutional controls submitted to EPA on 11/14/2018 in Figure 2-2.
19		USEPA	The ROD and Draft Final Design Report (DFRD) prepared by ENTACT indicate an excavation of exceedance at the West Ditch Outfall. Is this included in the design report? The location is shown on Drawing 6 in Appendix A of the DFRD. A conceptual detail of this remediation is presented on Detail 6 on Drawing 9 in Appendix A of the DFRD.	All slag and contaminated material will be excavated from the site. Since the West Ditch is included in the site, it will be excavated, and will be shown clearly on the drawings. Additional line items will be added to the cost estimate for West Ditch Outfall and Rose Creek.	Concur	This was not incorporated into the BODR or the cost estimate.	West Ditch 1 outfall located north of Collinsville Rd will be added to the design and cost estimate.
20		USEPA	Is the excavation of Rose Creek as indicated in the ROD included in the Design document? (Excavation of affected sediments within ditches or Rose Creek exceeding the applicable human health or ecological CLs and consolidation of these affected sediments within the 35-acre consolidation area.) It is not clear if it is. According to the ENTACT DFRD approximately 1 foot of sediments are to be excavated from Rose Creek.	All slag and contaminated material will be excavated from the site. Since the West Ditch is included in the site, it will be excavated, and will be shown clearly on the drawings. Additional line items will be added to the cost estimate for West Ditch Outfall and Rose Creek.	Concur	This was not incorporated correctly. The West Ditch Outfall is not shown in Drawing C-103	West Ditch 1 outfall located north of Collinsville Rd will be added to the design. Also, the design will be updated to include slag excavation of the next reach of Rose Creek (downstream to the next culvert at corner of N. 45th St. and Roselake Rd.)
21		USEPA	Sediment from ditches, Rose Creek, and West Ditch outfall do not appear to be in the cost estimate. Are they? Does the material need to be dried out before placing into cell?	All slag and contaminated material will be excavated from the site. Since the ditches are included in the site, they will be excavated, and the material will be disposed of in the consolidation area. Volumes on the cost estimate will reflect this.	Concur	See previous responses to comments.	The sediment excavated from the ditches will be mixed with other excavated material. Due to the small quantity of sediment that will be excavated from the ditches and mixed with other excavated material, it is not anticipated that drying will be necessary. Details will be added to the BODR and specs to clarify that excavated sediment material will be mixed with other excavated material.
22		USEPA	Figure 4 in the PDI specifically shows where the voids are on the site. Have the details been adequately incorporated in the Design? This information would probably be beneficial in the Design Document for safety reasons and precautions. It appears that some of these voids are deeper than the anticipated bottom of the consolidation cell. Will this affect the design?	The voids in question are all within the Consolidation footprint area. Exposed voids will be filled if they are below the bottom the Consolidation Area using appropriate material and compaction.	Concur		--
23		USEPA	The drawings indicate surface slag being excavated. What about subsurface slag? Will that be excavated?	All slag will be excavated from the site. The term surficial slag is used as the slag is generally on the "surface" of the site, i.e. not covered by clean material. "surficial" shall be removed to avoid confusion.	Concur		--
24		USEPA/IEPA	Section 4 states under CERCLA 121(e), onsite RAs do not need to comply with the administrative requirements of ARARs (environmental laws and regulations, such as permitting). However, the cost estimate indicates a line item for permitting. SECTION 01 57 13 also discusses permitting in several places. Please explain.	Permitting line item will be removed (see comment 48). The Specifications will be updated to refer to compliance with substantive aspects of the NPDES Construction Stormwater Discharge Permit	Concur		--
25	Section 1.3	USACE	Are Pb TCLP tests not being performed on soil and slag as well? Why is only the tarry material being considered potentially hazardous	Tarry material has been tested as non-hazardous, does not need to be tested again, and can be disposed of in the consolidation area. Because slag is not being moved off site, and is being disposed of in the onsite consolidation area, it is not necessary to test it.	Recommend verifying with USEPA that this is in keeping with Land Disposal requirements as they pertain to this type/class of disposal cell.		--
26	Section 2.1	USACE	Check for SWPPP for stockpiles	All stockpiles will have the proper erosion control measures in place to reduce runoff and erosion.	Ensure requirements are included in "Care of Water" or similar contract specifications.	Did not see "Care of Water" or similar contract specification in document.	A soil erosion and sedimentation control plan will be included as part of the SWPPP. Sections 2.1 and 3.2.1 of the BODR and spec Section 01 11 00 Summary of Work will be updated to clarify this requirement.

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27	Section 2.1	USACE	Other materials such as which ones?	Text has been updated to remove confusion on materials: "Excavation of unimpacted clay from the consolidation area to design grades, and placement of the clay in stockpile areas in the northeast and southeast portions of the site. Clay meeting the requirements of the low-permeability cover shall be placed in the clay stockpile in the southeast portion of the site. All other material excavated from the consolidation area shall be used for general site fill and shall be placed in the general fill stockpile in the northeast portion of the site. "	Concur	See comment above	Please clarify "See comment above" so we can respond appropriately.
28	Section 3.2.1.2 Sections 3.2.1.3 thru 3.3.2	USACE	Is the contractor staging area to be set up in front of or behind the XTRA facilities currently on site. is there any accommodate requirements for XTRA personnel or equipment? Has the proposed staging area been sampled and confirmed clean? Additional costs will be incurred during construction if we later determine we are required to remediate under the staging area after temporary construction facilities have been set up.	It will be up to the Contractor to set up the staging area according to the equipment and facilities that they require. Regardless of where they set up, they will be required to make sure that they are setting up on clean portions of the site, or excavate and remove contaminated soil to ensure they are on clean soil. Buildings will not be used for staging.	Concur	See comment above	Text will be updated as shown below unless advised differently. 3.3.2.1 Staging Area The Contractor will establish a staging area according to the equipment, materials, and facilities required for remedial action. Existing buildings will not be used for staging. The FA has adequate area to store material and equipment, house temporary field offices/trailers, and establish equipment decontamination facilities. Prior to establishing or expanding staging areas, permission must be granted by property owner, area must be tested and cleared of slag unless it is within areas with institutional controls (Figure 2-2), appropriate accommodations must have been made in writing allowing the property owner to access their existing facilities, and the location must be approved by a representative of EPA (Owner's Representative). Staging areas delineated in site support drawings and in Figure 2-1 are assumed as reasonable locations and are to be used for planning purposes only. These locations do not exempt Contractor from performing requirements for setting staging area limits.
29	Section 3.4.1.3	USACE	Is all vegetation required to be cleared from the site?	Text has been updated to state: "Clearing, grubbing, and removal of any structures that may provide migratory bird habitat will be performed between September 10 and April 1 (outside of the migratory bird nesting period and the Indiana Bat USFWS guidelines) where necessary, over the entirety of at the FA. Clearing of any threatened and endangered species habitat, if present, will be in accordance with the USFWS consultation. Details for the clearing and grubbing are provided in the project specifications. "	Concur	Revise based on USFWS information. The text and attachments should be updated to October 1 - March 31st. The actual FWS restricted cut dates are from April 1-September 30. These dates are in place to prevent potential take of roosting bats. If tree removal must be conducted during this time frame then potential roost trees must be visually assessed to determine if bats are present before they are cut down.	USFWS dates have been updated and the text revised to clarify migratory bird dates (April 1-Sept 10) from USFWS bat dates (April 1-Sept 30) - Section 3.4.1.3 of BODR and Table 4-1; spec Sections 01 11 00 Summary of Work and 31 10 00 Site Clearing.
30	Section 3.4.1.7	USACE	What are the geotextile properties? What are the minimum requirements for the geotextile fabric to be used in this application?	Geotextile is not necessary and will not be included for stabilized construction entrance.	Ensure that this statement is deleted from Section 3.4.1.7 Stability Construction Entrances.		--
31	Section 3.5.2.1.	USACE	Is the consolidation area design capacity to be 970,000 cy or 974,000 cy, like it is stated on Section 3.5.2.12 on page 3-6? In addition what is the correct volume, how much contingency has been added to the design.	The capacity is 974,000 CY. Contingency numbers will be determined once the final volume of excavated soil from the residential properties has been determined.	Revise Section 3.5.2.1 Estimation Quantities to show 974,000 CY.		--
32	Section 3.5.2.2	USACE	The statement seems to be incomplete when compared to the one on Section 3.5.2.5 which explains that "will either be stockpiled with the slag in the northwestern portion of the site or placed directly in the consolidation area (after it is excavated).	Text updated to remain consistent: "If concrete foundations are encountered during excavations, the concrete will be completely removed, pulverized, and either placed in the stockpile along with the surficial slag, or disposed of within the consolidation area after it is excavated. "	Concur		--

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33	Section 3.5.2.2	USACE	Dust abatement for the pulverization and abrasion of the concrete foundations as well. Is there a minimum amount of dust abatement and if so what is the thresholds.	Text has been updated to state: "Dust abatement will be performed during excavation and transportation operations, in addition to the concrete pulverizing, as necessary to prevent emission of visible fugitive dust beyond the FA boundary. Activities may include a work stoppage until dust abatement measures are implemented."	Concur		--
34	Section 3.5.2.2	USACE	Laboratory...?	Text was missing the word "laboratory" so it was added	Concur		--
35	Section 3.5.3.1	USACE	does not match the table in the geotechnical report on page 43 of this pdf	The text will be updated to state "1.5, 1.0, and 1.2", as shown in appendix A.	Concur		--
36	Table 3-1	USACE	friction angle of 29 degrees for fat clays as described in previous paragraphs may be unconservative. A value in the lower 20s would be more appropriate for these types of materials.	A drained friction angle of 29 degrees is considered representative of stiff to very stiff clay (even CH material) based on data from other projects, considering that any drained cohesion is ignored. Even so, considering the relatively flat finished grade of the consolidation area cover, a drained friction angle in the lower 20s (without cohesion) would still result in an acceptable drained FS. A sensitivity check case will be added to Appendix A to document the FS for the lower friction angle of 20 degrees.	Concur		--
37	Section 8	USACE	we won't use section 01 29 00 for MVS construction contract. Any useful information will be used in Measurement and Payment section.	For the purpose of the design, we will continue to use the CH2M boilerplate specifications unless directed by EPA to do otherwise.	Concur		--
38	Figure 1-2	USACE	Has testing been completed in this wetland-esque area to determine presence of Zn and/or Pb? This appears to be a low area with ease of contaminant spread by runoff, groundwater transport, etc.	No know testing has not been performed in that area as it is not part of the Facility Area, and therefore not part of the design.	Recommend verifying with USEPA that this is acceptable. This would not be the first remediation contract to discover that the "extent of contamination" is greater than the real estate or other boundaries. Since this point is apparently a drainage outlet for the site, likelihood of contamination is elevated. EPA Response: Testing was completed during the RI and previous investigations. The BERA found that the constituents of potential ecological concern (COPECs) at most locations do not appear to pose a potential risk to macroinvertebrates. The only COPEC that exceeded its respective allowable concentration in macroinvertebrates was zinc at two locations on the Facility Area and one location immediately downgradient of the Facility Area, indicating that any potential adverse effects to the benthic macroinvertebrate community appear limited to portions of the waterways on the Facility Area and its immediate vicinity. Additionally, the BERA reported no conclusive evidence that the health and diversity of the plant community within the Old Cahokia Watershed was being adversely affected by COPECs associated with historic smelter activities.		--
39	Figure 1-2	USACE	Where do ditches drain to during interior rain events? Storm sewers? Permanent SWPPP?	All ditches (existing or temporary to assist stormwater flow during construction) will drain to existing swales/ditches. These ditches will flow to a sediment trap before discharging off site. All points of stormwater egress from the site are those which are currently present, no new discharge points will be created. The consolidation area, once capped, would not trigger the IL NPDES Permit for Industrial Activities.	Concur		--
40	Figure 2-1	USACE	Stockpiling on this parking area? (additional slag stockpile area)	There will be no stockpiling of slag on the parking lot.	Recommend adjusting drawings/ construction limits to show exclusion.	The current drawings still show spoils/stockpile areas on parking lots and some areas that need to be excavated. Is this correct? See comments above.	See Response to Comment 18
41	Figure 2-1	USACE	Structure removal in clay stockpile area?	The building is remaining in place and the drawings have been updated to reflect this change.	Concur		--

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42	Appendix A	USACE	no signatures indicating the geotechnical designs and analysis were checked and approved.	Signatures will be included in the final document.	Concur	Signatures are still missing on the calculation summary for Appendix A.	Electronic signatures will be added to the title page.
43	Appendix A, Section 2.1	USACE	does not match safety factors in text	Safety factor criteria shown in Appendix A are correct. Text will be updated.	Concur		--
44	Appendix A, Section 2.2	USACE	index testing results should be provided, along with all other testing/sampling results for documentation purposes. Boring stick logs should also be included with the geotechnical report.	Index testing results (performed to-date) will be added to the attachments of Appendix A. Soil profiles from previous borings in the consolidation area are already included in Appendix A.	Concur		--
45	Appendix A, Table 2	USACE	how were the design parameters determined for the slag/residuals? the basis for these assumptions should be documented.	Direct shear testing on compacted residuals from another site (Eagle Zinc) indicated a friction angle greater than 30 degrees. While shear strength testing is not available for the site residuals, the friction angle used for analysis (23 degrees) is therefore considered conservative. The assumptions will be described in the report.	Concur		--
46	Appendix A, Table 2	USACE	same comment as before. this value of friction angle may be unconservative for fat clay soils. Friction angle of 29 - comment 77	See response to Comment 77.	Concur		--
47	Appendix A, Section 3	USACE	What is the remedy if the soil within the cell footprint, specifically at the base of the consolidation cell, does not meet the parameters set in Table 2? Is it acceptable if we encounter sand lenses in the base of the consolidation cell?	<p>If cohesive soils with undrained shear strength lower than approximately 1000 psf are encountered below the proposed cell bottom elevation, the Engineer should be contacted to evaluate cell stability and settlement and/or to recommend extents of additional removal and replacement.</p> <p>Where sand or other cohesionless soils are present at the proposed cell bottom, approximately 2 feet of compacted clay should be placed over the base of the cell prior to placing residuals in those areas.</p> <p>These recommendations will be added to the report.</p>	Concur		--
48	Appendix A, Section 3	USACE	Is this a requirement or a recommendation? Do we need to require the contractor to perform CPT soundings prior to consolidation cell construction? If so, this should be stated in the specifications that the contractor is required to perform CPT soundings prior to cell construction, this way the contractor includes this in their cost. If this is a requirement, please include a CPT sounding location grid.	It is a requirement. The contractor could perform CPT soundings before or after excavating and reaching the consolidation area base elevation. A CPT Sounding grid will be provided in the updated Appendix A, and will be included in the specifications.	Concur		--
49	Appendix A, Attachment A	USACE	unable to tell where any of these sections are. please provide section labels or other identifiable labels.	Will update detail, section, and dwg #'s accordingly.	Concur	This appears to still be missing. Unable to tell where the sections are located and recommended adding section labels within the 'Plan View & Cross Sections' attachment to Appendix A	Section labels will be added to Appendix A.
50	Appendix A, Attachment A, Drawings	USACE	Drainage during construction is going to be a concern. A flat base across such a large area is going to be challenging. Is there any opportunity to put a small slope in the base to promote drainage to one location to facilitate dewatering during construction? The specifications need to specifically state that dewatering during construction is expected and required. It would also be beneficial if some specific options were provided, such as berms, ditches, dams, sumps, standpipes or French drains, etc. to allow for natural drainage or active pumping during construction.	A small slope has been added to the bottom of the consolidation area. Water will flow to the southwest corner where it will be pumped out by means and methods determined by the contractor. Discharge water will flow through sediment trap prior to being discharged from site.	Concur		--

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51	Appendix B, Givens	USACE	TR-55 produces a conservative estimate in comparison to Atlas 14. For Atlas 14, 90% confidence interval values are: 25-year/24-hour = 5.00-6.13 and 100-yr/24-hour = 6.77-8.42. (https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=il) Conservative estimates for rainfall will result in more conservative channel designs. If major rain events cause only short-term ponding on/near remediation work, then a less conservative channel design might be adequate. But if ponding from major rain events is slow to recede, then a conservative channel design would be preferable in order to minimize the interface with infiltrated surface water.	Overall topography of the area is very flat - recommend using conservative estimates for channel design.	Concur		--
52	Appendix B, Assumption 4	USACE	How sensitive are the results of the model to changes in the n value? Roughness coefficients are an inexact science, especially between seasons and as flow depths change.	HEC-RAS is sensitive to n-value changes since it uses the Manning formula. N-values were assigned based on best professional judgment.	Agreed. Best practice is to perform sensitivity analysis to check the range of results based on a range of reasonable n-values.		--
53	Appendix B, Conclusion	USACE	5.31 would not include a 1 foot freeboard, correct? What is the downstream boundary like at the end of ditch 6? Let's assume ditch 6 is constructed to a depth of 5.31 feet. Will the transition from the downstream end of 6 to the existing off-site ditch be smooth, or will there be a vertical drop or jump? Any drop or abrupt vertical change in ditch slope (as in "waterfalls" or other steep slopes) should be stabilized with a structure or self-launching rip-rap, keyed into banks and overbanks of channel. This is an easy step that can prevent long-term erosion issues stemming from abrupt vertical changes in the ditch.	All ditches have 1' of freeboard to capture the 25-year, 24-hour storm event. Only Ditch 6 does NOT also capture the 100-year storm event using those design conditions. Transitions will be designed to be smooth - no vertical drops would be desired. Stabilization techniques will be utilized where necessary.	Concur		--
54	Appendix B, Conclusion	USACE	What drainage conditions exist downstream of ditch 6? Can 6 freely discharge all flow, or would its discharge be limited by backwater effects due to filling/full/flooded drainage conditions downstream? From Google Street View, it seems the receiving ditch (downstream where Ditch 6 drains into) is fairly small and not well-maintained. If the downstream receiving ditch cannot convey 6's flow, then it could back water up and lead to flooding in the overbanks in the FA. Shifting focus to downstream: if the downstream receiving ditch received design-runoff flow from 6, would it adequately convey the flow without flooding into the overbanks and causing damage to property? What about from a 100-yr storm? In line with this discussion, how do the constructed changes to the FA affect the peak of the runoff hydrograph? If the site and channel improvements change or increase the peak flow, then downstream flooding could worsen. A detention/retention basin might be in order to offset the peak and mitigate downstream flooding. Recommend contacting MESD to check local regulations and guidelines on this.	Downstream drainage conditions will be more thoroughly investigated. The overall site topography based on DTMs from USGS website is very flat and more detailed knowledge of the downstream ditches is needed to determine the likelihood of increasing flooding downstream of the FA. Will review MESD requirements in this area.	Concur		--
55	Appendix B, Appendices	USACE	This appears to still be part of Appendix B, recommend renaming to "Annex A." "Attachment" is also acceptable, and used elsewhere. Same comment for all appendices	Changed all appendices of appendices to 'Attachment'	Concur		--
56	Appendix B, Attachment A	USACE	Should this be DA_1 lower? (segment DA_2 lower on TR-55 calc page)	This will be reviewed for accuracy.	Concur		--
57	Appendix B, Attachment C, Geometry Overview	USACE	Verify drainage infrastructure condition for use of this outlet (upper left), including culverts at road crossings (Maryland Ave., Collinsville Rd)	Flow to this culvert not increased substantially, but will investigate the culverts further.	Concur with further investigation		--
58	Appendix B, Attachment C, Geometry Overview	USACE	Recommend overlaying these lines (drainage channels) on plans, both for use in construction and to check conflicts. This portion (approx. station 4620) appears to cross through the buildings, designated to remain.	Added basemap to show aerial image behind the HEC-RAS features. This is a new feature with HEC-RAS v5.0.4	Concur		--

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59	Appendix B, Attachment C, Geometry Overview	USACE	Difficult to read. Recommend to adjust scale so that numbers and labels to do not overlap. Also difficult to distinguish direction of flow without prior knowledge. Recommend drawing arrows on each ditch.	Adjusted Cross-section numbers to the best available position within the HEC-RAS Mapper tool. Also added flow direction arrows.	Concur		--
60	Appendix B, Attachment C, Geometry Overview	USACE	Inputs from this portion of the existing ditch network does not appear to have been included (bottom right); recommend verifying capacity to include the exterior drainage area associated with this portion	Exterior drainage adds minimal flow, does not impact designed ditches. Included for completeness. Will further investigate local drainage.	Concur with further investigation		--
61	Appendix B, Attachment C, Geometry Overview	USACE	This ditch portion (lower left) appears to cross through existing high ground that is heavily vegetated, and not marked for entombment (verify). Recommend verifying that existing ditching, including culvert through road crossing at approximate station 980 on this schematic provides adequate capacity	Will investigate local drainage and culverts further. While the ditches might appear to be going through existing high ground, they are not.	Concur with further investigation		--
62	Appendix B, Attachment C, Geometry Overview	USACE	Verify drainage infrastructure condition for use of this outlet (bottom left), including capacity outside of project area, and culvert though rail yard access point	Minimal flow added from areas outside of project area, very flat topographically.	Concur		--
63	Appendix B, Attachment C, Geometry Overview	USACE	Does this HEC-RAS analysis consider the effect of sediment traps on channel and overbank flow?	No.	Risk exists of high flow flanking check-dam(s) during construction. Advise to consider the impact of check-dams on drainage during construction.		--
64	Specs TOC	USACE	We expect to encounter building debris that has been demolished and buried on site. Given the age of the facility and the time period when the buildings were demolished, it seems likely that we will encounter asbestos. There is no mention of asbestos in this document anywhere, how should we process this material?	The specifications will require the contractor to perform a survey for asbestos and if present, to include proper handling in their Health and Safety Plan, and to describe proper management and disposal.	Concur		--
65	Specs TOC	USACE	Specifications need to be added addressing concrete and any requirements for pulverization. A pulverizer or even a crusher should be required on site. Are larger slag chunks to be treated the same as concrete?	The following two bullets have been added to Specification 31 23 16. 3.02.B: 1. Foundations shall be removed completely, even below designed excavation depth. 2. A concrete pulverizer shall be used to pulverize concrete into manageable sized pieces prior to stockpiling.	Concur		--
66	Spec 01 11 00, section 1.01.A.1.a	USACE	"is" not "it"	Text has been updated to state "includes, but is not limited to:"	Concur		--
67	01 31 13, 1.06.A.1	USACE	is the Agreement the construction contract? Define Agreement in Acronyms and Abbreviations or elsewhere	"Agreement" has been replaced with "construction contract"	Concur		--
68	01 31 13, 1.06.A.1	USACE	We are excavating on the North side of Maryland Avenue, this road is likely to become damaged. If the intent is to leave existing asphalt roads within construction limits in tact, it should be stated that the contractor is required to take precaution to minimize damage to roads and that any damage is required to be repaired at no cost to the government.	A third bullet has been added: "Excavation will occur on the north side of Maryland Avenue which may result in the road becoming damaged. The contractor shall take precautions to minimize damage to roadway, and any damage incurred shall be repaired at no cost to the owner or government."	Concur		--
69	01 32 00, B.6.e	USACE	Are there Owner-furnished products? Nothing mentioned in 01 11 00.	This bullet point has been removed as there are no owner-furnished products.	Concur		--
70	01 32 00, 1.07.A.1.c	USACE	what owner-furnished equipment or material?	This bullet point has been removed as there are no owner-furnished products.	Concur		--
71	01 33 00	USACE	MVS version of this specification will be used if contract is being administered by the Corps.	For the purpose of our design, we will continue to use the Jacobs boilerplate specifications unless directed by EPA to do otherwise. If the USACE wishes to administer the contract for this project, we can provide the technical specifications only.	Concur		--
72	01 45 16.13	USACE	MVS version of this spec will be used if Corps administers the contract.	For the purpose of our design, we will continue to use the CH2M boilerplate specifications unless directed by EPA to do otherwise.	Concur		--
73	01 50 00	USACE	Temporary construction facilities should be placed on an area that has been tested and is clean of any contamination. If no area exists, provisions should be added that require the contractor to excavate and clean an area before building out temporary facilities.	Two bullets have been added to Section 1.03.B: 2. Area designated for temporary facilities shown on Drawings shall be tested to confirm that it is clean of any contamination before mobilization. 3. If contamination exists, Contractor shall excavate and clean the area before building out temporary facilities.	Concur		--

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74	01 50 00	USACE	MVS version of this spec will be used if Corps administers contract.	For the purpose of our design, we will continue to use the CH2M boilerplate specifications unless directed by EPA to do otherwise.	Concur		--
75	01 57 13 table 3	USACE	The standards outlined in this table will require custom fabrication for silt fence. Would it be acceptable to align the requirements to a standard DOT silt fence material?	The values presented in Table 3 are standard geotextile properties for silt fence for pretty much every state. Standard DOT silt fence geotextile properties may even be more restrictive. If there is reason to believe that these requirements are too restrictive, please provide references to show what they should be changed to.	Concur		--
76	01 57 13. 3.05.A	USACE	If the check dam doesn't initially function as intended and needs to be modified in order to meet the spec, will it be re-measured again and the price difference paid?	Text has been updated to state "No additional measurement will be made for check dams required to be rehabilitated or replaced as a result of wear or improper installation."	Concur		--
77	31 10 00. 3.01.A	USACE	It should be specified that clearing and grubbing costs should include clearing the entire facility property, not just within the limits. We only want to pay for clearing once, this verbiage could result in the contractor assuming some areas may not be required to be cleared.	Text updated to state: "Clear, grub, and strip entire site within limits shown or specified."	Concur		--
78	31 10 00. 3.07.A.1	USACE	There are no additional costs included in the estimate for disposing of material offsite.	Costs for disposing of materials offsite will be added	Concur		--
79	31 10 00. 3.07.A.3	USACE	Is it acceptable to dispose of trees, grass, or other vegetation within the consolidation cell? The Illinois EPA has stopped this from happening on other superfund projects with similar contamination and similar remedial designs. Changing this requirement after contract award is very costly. If this may become a concern or may change after contract award, recommend specifying that trees should be cleared and stockpiled on a clean area for chipping and either disposed on site as mulch, mixed with clean topsoil, or sold.	As stated, woody debris and other clearing and grubbing debris will be chipped and/or mulched and either mixed with topsoil, used as mulch during restoration, or disposed of offsite. This material will not be placed in the Consolidation Area. A fourth bullet was added stating: "Root balls of trees shall be chipped and/or pulverized and disposed of in the Consolidation Area."	Concur		--
80	31 10 00. 3.07.C.1	USACE	Same applies with grass and any other organic material. If topsoil required to be placed within the consolidation cell contains grass or other vegetation, is that going to be allowed? The Illinois EPA has required segregation of this material in order to prevent it from being placed within consolidation cells on other, almost identical projects. This results in costly changes after award. If there is concern about vegetation being placed within the consolidation cell, recommend requiring grass or small vegetation to be cut to within X inches of ground level and collected prior to excavation. The remaining vegetation above grade and the remaining root mass could be considered de minimus.	This bullet has been updated to reflect the change to 3.07.A.3. Strippings not suitable for topsoil shall be disposed of offsite	Concur		--
81	31 23 23. 1.02.A.1	USACE	ASTM D698, also known as the proctor test is not applicable when dealing with these types of materials. The ASTM states that this test method only applies to soils (materials) that have 30% or less by mass of particles retained on the 3/4 inch sieve and have not been previously compacted in the laboratory. It is very like that because of the concrete and other contaminated materials that this will not be applicable.	We will conform to what was performed at Eagle Zinc Superfund Site: The initial filling of the consolidation area will start with material that is eligible for ASTM D698. Proctors will be performed on that material and a "test portion" of the consolidation area will be filled and compacted. Testing will be performed by the nuclear density gauge (ASTM D6938) throughout this area to confirm the 98% relative compaction (about 5 or so locations). After the "test portion" of the consolidation area has confirmed relative compaction, it will be proof rolled and observed for rutting and/or pumping. The amount of observed rutting and/or pumping in the completed section will then be used moving forward as the compaction performance standard for the remainder of the consolidation area, with no nuclear density testing being required.	Concur		--

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82	31 23 23. 2.02	USACE	Is the consolidation material also defined as all material that is permitted into the cell which would include but not limited to concrete, building demolition debris, impacted sediments and soils, smelter materials, etc.? If so, it should be defined as such so that it permits a what is truly defined in consolidation material. This will help clarify how things are paid out.	Definition has been updated to the following: "1. Surficial slag and affected soil. 2. Excavated material from off-site residential properties consisting of soil potentially mixed with slag. 3. Excavated material encountered on-site including, but not limited to, concrete, building demolition debris, impacted sediments and soils, and smelter materials."	Concur		--
83	31 23 23. 2.04	USACE	General fill is normally described as "soil material consisting of generally clay soils with an USCS classification of SC, CL, CL-ML, Ch or as otherwise approved by the Owner or Owner's Representative.	Definition has been updated to the following: "A. Soil material consisting of generally clay soils with an USCS classification of SC, CL, CL-ML, CH or as otherwise approved by the Owner or Owner's Representative. B. Free from rocks larger than 3 inches, from roots and other organic matter, ashes, cinders, trash, debris, and other deleterious materials."	Concur		--
84	31 23 23. 3.01.B	USACE	It should be noted whether benching into an adjacent lift is allowed. Should benching be allowed, then a drawing should be provided on how this should be performed.	Bullet point has been added: "1. Benching into adjacent lifts is only permitted for the placement of the clay cover."	Per comment 87, grid size is defined so what specifications are required such as benching and keying into adjacent lifts of residue and consolidation materials.		--
85	31 23 23. 3.02.A	USACE	State that all material placed as consolidation material especially concrete should be broken into pieces such that they will fit within an 8 inch lift.	Bullet point has been added: "a. Consolidation material shall be broken into pieces such that it will fit within an 8-inch loose lift."	Concur		--
86	31 23 23. 3.02.A.1	USACE	Compacted or loose? On specification page 31 23 23-2, lift is defined as loose.	Text updated to state: "Maximum 8 inch thick loose lifts."	Concur		--
87	32 23 23. 3.02.A.2	USACE	Would placing lifts in grids be allowed? Placing a contiguous will become difficult when groundwater is encountered. If so, please provide a minimum size for grids	Bullet point has been added: "a. Consolidation area will be filled in a grid system, with grid size not exceeding 200 feet by 200 feet."	Should lifts be no smaller than 200 by 200 or is it no larger than 200 by 200 feet.		--
88	33 23 23. 3.02.A.3	USACE	Minimum 98 percent compaction is typical in construction where minimal to no settlement is allowed due to the high risk environment. It is important to note that with increased compaction there is an increased cost associated due in part to the effort and equipment costs associated with obtaining such compaction.	See comment 122 response. 98% compaction will be required in the "test portion" of the consolidation area, but a performance standard based on any rutting and/or pumping in the "test portion" will be used for the remainder of the consolidation area.	Concur		--
89	33 23 23. 3.02.A.3	USACE	ASTM D698 test methods only apply to material that retains 30% or less on the 3/4" sieve. This will not apply to the consolidation material encountered on OAZ, pulverized concrete, building debris, and other slag chunks will be intermixed.	See comment 122 response. 98% compaction will be required in the "test portion" of the consolidation area, but a performance standard based on any rutting and/or pumping in the "test portion" will be used for the remainder of the consolidation area.	Concur		--
90	33 23 23. 3.03.C	USACE	Nuclear density gauge testing is only accepted if there are proctors to relate back to. The proctors will vary due to the site having several stockpiles of varying contaminated materials. If the contractor takes to loads from stockpile A and then 1 load from stockpile B, there will not be a proctor to account for this leaving the nuclear density gauge testing very ineffective.	See comment 122 response. 98% compaction will be required in the "test portion" of the consolidation area, but a performance standard based on any rutting and/or pumping in the "test portion" will be used for the remainder of the consolidation area.	Concur		--
91	33 23 23. 3.03.C.1	USACE	In-place density testing using nuclear methods (ASTM D6938) will not provide accurate or reliable data in the consolidation material encountered on OAZ due to the extreme inconsistency in the material size and type. The consolidation material will vary in size and consistency drastically from one location or stockpile to the next. Pulverized concrete, building debris, and other large chunks of slag will cause more inconsistency.	See comment 122 response. 98% compaction will be required in the "test portion" of the consolidation area, but a performance standard based on any rutting and/or pumping in the "test portion" will be used for the remainder of the consolidation area.	Concur		--
92	32 91 13. 2.01.B	USACE	remove minimum from gradation ranges	The qualifier "Minimum" has been removed from bullets 2 and 3 for the sand and silt-clay fraction gradations.	Concur		--
93	32 91 13. 2.01.D	USACE	Acidic soil may not be recommended in these instances, given the potential to increase contaminant ion release and subsequent increase in toxicity. Recommend a higher pH specification around neutral; 6.5-7.5.	pH range specification has been changed to 6.5 to 7.5.	Concur		--

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94	32 91 13. 2.04	USACE	Is this necessary? Is another product acceptable? Usually not recommended to specify a manufacturer unless there are compatibility concerns with existing systems (N/A for this). Recommend providing general requirements of an acceptable herbicide and not specify manufacturer	Soil Sterilant determined to not be necessary, therefore, section removed.	Concur		--
95	32 92 00. 2.02	USACE	Is a polyculture mix recommended for this application? Recommend this be specified, particularly since "local authority" is not specific. Additionally, it may be good to specify a flood-tolerant species in the new ditches in case slopes are not sufficient to remove standing water (as is currently the case)	Seed mix section has been updated to the following: "1. General: shall conform to IDOT Class 4 Native Grass Mixture. 2. Ditches: shall conform to IDOT Class 4B Wetland Grass and Sedge Mix. 3. Winter Protective Seed: Annual ryegrass."	Concur		--
96	32 92 00. 2.05	USACE	If netting is being applied for temporary mulch stabilization, use of plastic may not be recommended, as it will need to be removed afterward while jute and straw will typically degrade at an acceptable rate	Plastic netting section has been removed.	Concur		--
97	32 92 00. 3.04.B	USACE	Should this be Contracting Officer? If not, is this intending to tell the contractor to provide a QC check before contacting the Engineer for final acceptance? Recommend providing brief clarification of responsibilities	The text has been updated to state: "If a satisfactory stand has not been established, Contractor shall re-seed at their own expense. Once a satisfactory stand is established, the Contractor shall notify the Engineer."	Concur		--
98	QAQC Plan, Section 5	USACE	missing a space, third bullet, utility terminations	Space will be added.	Concur		--
99	O&M Plan, Section 2.1	USACE	Perhaps a description of the completed project/current adjacent properties would be more helpful than copying this from the report...	The site description will be updated to describe post-construction conditions. This will include a description of the buildings remaining on site and the finalized consolidation area.	Concur		--
100	O&M Plan, Section 2.2.1	USACE	Again, it may be preferable to write this as though construction was already complete, only discussing the features that will be "existing" at the commencement of O&M.	The site description will be updated to describe post-construction conditions. This will include a description of the buildings remaining on site and the finalized consolidation area.	Concur		--
101	O&M Plan, Section 3.1	USACE	Any other method required for leachate control or monitoring?	reference to leachate seepage will be removed. The intent is to identify vegetative stress, regardless of the cause.	Concur		--
102	O&M Plan, Section 3.1.2	USACE	Is stone being used in the channels? Currently, they appear to be grass swales	The swales will be grass lined. The section will be updated.	Concur		--
103	O&M Plan, Section 3.3	USACE	Check what else is referencing this section... Not a lot in here....	Institutional controls section will be updated to reflect all of the IC's added on the project.	Concur		--
104	cost estimate - clearing and grubbing	USACE	Only minor clearing is considered. If the entire site is to be covered with 12" of topsoil, per note #8 on the drawings, wouldn't the entire site require clearing and grubbing?	There's quantity error in estimate. It is at 25 acres but should be 125 acres . Cost estimate will be revised.	Concur		--
105	cost estimate - clearing and grubbing	USACE	Please specify that clearing and grubbing lump sum includes clearing the entire property.	See comment 49 response.	Concur		--
106	cost estimate - stormwater management	USACE	Should be a lump sum unit for SWPPP activities during construction. Gallon is a very impractical unit for measurement and payment of SWPPP activities.	Cost estimate has been revised to lump sump unit of measure, with a note that the lump sump covers up to a set volume of water to be handled.	During construction activities, it is not feasible to manage SWPPP activities in unit measurement. Unit prices in sediment traps, silt fences, or overall lump sum for care of water which would include all SWPPP actives would be more practical.		--
107	cost estimate - pulverizing concrete foundations	USACE	Based on historical maps and the number of buildings that were once located on the property I think it would be fair to say that the assumed 500cy's of concrete foundations to be pulverized is severely under estimated. Is there any data currently available to help better quantify the concrete foundations remaining on-site?	Unfortunately there is not enough data (location, depth, thickness) to better quantify the total quantity of concrete foundations on site. A larger quantity will be assumed using input from the limited data that is available and from discussion with design team.	Concur, recommend increasing by an order of magnitude		--
108	cost estimate - pulverizing concrete foundations	USACE	Based upon the concrete on site and the visible concrete features, it is evident that there is more than 500 CY of concrete. From site investigations, many of the building structures were buried on site which will lead to many concrete pillars and foundations that will need to be demolished and excavated.	There is not enough known data (location, depth, thickness) to better quantify the total quantity of concrete foundations on site. A larger quantity will be assumed using input from the limited data that is available and from discussion with design team.	Concur, recommend increasing by an order of magnitude		--
109	cost estimate - pulverizing concrete foundations	USACE	This quantity is very low given the amount of concrete visible above grade. You can see the tops foundations and footers that are subsurface. Recommend increasing this quantity.	There is not enough known data (location, depth, thickness) to better quantify the total quantity of concrete foundations on site. A larger quantity will be assumed using input from the limited data that is available and from discussion with design team.	Concur, recommend increasing by an order of magnitude		--

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110	cost estimate - topsoil layer	USACE	12 inches of topsoil seems excessive. Topsoil is expensive when compared to general fill. Would 6 inches be acceptable? This is more than adequate to establish turf, and would cut the required quantity in half and reduce the estimate by more than \$5M.	Topsoil thickness has been changed to 6 inches. Cost estimate will be updated.	Concur		--
111	cost estimate - topsoil layer	USACE	If the entire site is to covered with 12" of topsoil wouldn't the entire site require seeding or is this a specific requirement and seeding of the entire site would need to be considered in addition.	There's quantity error in estimate. It is at 25 acres but should be 125 acres . Cost estimate will be revised.	Concur		--
112	C-001	USACE	What is the data source for the existing contour elevations? Are they based on recent survey data?	This information is currently not known. The drawings were based off of preliminary drawings from another contractor. We will attempt to locate the source of the elevations.	Concur		--
113	C-002	USACE	Are we installing the security fencing through this portion of this industrial property or going around?	Fencing will go around the property.	Concur		--
114	C-002	USACE	Will the chain link fence installed be left in place at the conclusion of the project?	Fencing for the site will be updated as stated in comment 54 response.	Concur		--
115	C-002	USACE	We are excavating across Maryland Avenue, it is likely to be damaged. Is the intent to leave the road undamaged? Is the contractor expected to remove the road to remediate under the road?	Remediation will be on other side of Maryland Ave. but not under the road. Contractor is expected to mitigate damaging the road.	Please specify the contractor is to mitigate damage to the road or make such repairs caused on their behalf.		--
116	C-002	USACE	We will have to remove the existing site security fence prior to excavation in the northern portion of the facility, are we required to replace this fence at the conclusion of the project?	Fencing for the site will be updated as stated in comment 54 response.	Concur		--
117	C-002	USACE	West Ditch1 drains north? Arrows on this figure seem to indicate that. But the HEC RAS model seems to show the opposite. Based on the design memorandum (and RAS nomenclature for ditches), it seems that ditch 7 drains south and confluences with the end of ditch 6. If ditch 7 drains north into ditch 8, then how are the design flows for ditch 8 only 8.14 cfs for a 100-yr/24-hr storm? And why is the stationing in RAS geometry backwards (ascending station going downstream, whereas other ditches are descending station going downstream)?	Flow arrows on drawings will be updated to reflect actual flow direction.	Concur		--
118	C-002	USACE	It seems that runoff roughly within this polygon does not interface with a sediment trap prior to leaving the FA. This is assuming that the trap in the southwest corner of the site is only interfacing with runoff in Ditch 6 ("West Ditch 1").	Sediment traps will be added at pertinent locations on site to make sure that all construction site runoff is routed through them.	Concur		--
119	C-002	USACE	Recommend ensuring all FA runoff interfaces with at least one ditch sediment trap (3125-175) prior to leaving FA.	Sediment traps will be added at pertinent locations on site to make sure that all construction site runoff is routed through them.	Concur		--
120	C-002	USACE	This sediment trap appears to be interfacing with runoff from "West Ditch 2", but not from Ditch 6 ("Rose Creek") or Ditch 7 ("West Ditch 1"). If that's correct, then what about runoff from those areas?	Sediment traps will be added at pertinent locations on site to make sure that all construction site runoff is routed through them.	Concur		--
121	C-002	USACE	It seems that runoff roughly within this polygon does not interface with a sediment trap prior to leaving the FA. This is assuming the nearby trap is interfacing only with runoff from Ditch 5 ("East Ditch 1").	Sediment traps will be added at pertinent locations on site to make sure that all construction site runoff is routed through them.	Concur		--
122	C-002	USACE	Based upon this drawing, it shows that the fencing crosses the road and is placed directly on the shoulder of the road. There is also power lines and other utilities that will need to be moved in order to provide the necessary clearance for a 6 ft fence.	Fencing for the site will be updated as stated in comment 54 response. Notes indicating that removal or moving of utilities will need to occur by the contractor have been added.	Concur		--
123	C-002	USACE	Recommend providing clearing limits within the plans, limiting clearing to those areas necessary for completion of work.	Clearing and grubbing limits have been identified and project limits will be adjusted to prevent clearing of areas not needing remediation.	Concur		--
124	C-003	USACE	We are installing a security fence along this road, is the security fence supposed to be in between the power poles and the road or are the power lines outside of the security fence?	Fencing for the site will be updated as stated in comment 54 response. Notes indicating that removal or moving of utilities will need to occur by the contractor have been added.	Concur		--

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125	C-003	USACE	Is there a requirement to jet any culverts running underneath any of the surrounding roads because the construction limits go right up to the edge of the road.	There will be a pre-construction meeting with City streets department to capture and review existing conditions. It is the intent of design to prevent offsite transport of material.	Concur		--
126	C-003	USACE	It was brought up during the site visit that there are former stormwater sewer and other underground utilities located on site. Is the intent to abandon these systems and remove them or is some other approach acceptable? For example, jetting the sewer system and grouting it shut with a flowable fill. If so, please provide some direction in the specifications.	Any former stormwater and non current utilities will be removed during the excavation of the slag if they are encountered and disposed of in the consolidation area.	Concur		--
127	C-003	USACE	Recommend including designations of "by others" if residential yards contractor is responsible for gate and road repairs and maintenance.	Entrance/Exit install, maintenance, removal, etc. considerations will be addressed and coordinated on contract documents accordingly.	Concur		--
128	C-003	USACE	General fill stockpile contains a large ponding area. Is there a requirement to pump this out prior to stockpiling material?	If it contains water, then yes it will need to be pumped out prior to filling	Concur		--
129	C-003	USACE	This is still an existing structure. During the site visit, it was stated that it is to remain and not be damaged. This should be noted somewhere in the plans/specifications. Limits and requirements should also be established, for example, do not place a stockpile within X feet of the building or on the concrete surrounding the building. Also, is the owner of this building going to continue to use or require access to this building during construction?	All buildings that are remaining on site will be given a 15' buffer. There is also a buffer on the access roads/driveways to these buildings so that operation may continue.	Concur		--
130	C-003	USACE	There are utilities and overhead power lines located all along this road and especially the intersection of Kingshighway and Maryland. please provide some direction on how to approach and if it will be acceptable to leave some consolidation material around the base of these power poles.	Notes indicating that removal or moving of utilities will need to occur by the contractor have been added.	Concur		--
131	C-003	USACE	Is this building to remain? is there any limits or access requirements for the owner during construction?	All buildings that are remaining on site will be given a 15' buffer. There is also a buffer on the access roads/driveways to these buildings so that operation may continue.	Concur		--
132	C-003	USACE	It would help to have a detail showing the proposed contractor staging area. Is the contractor permitted to use the building for storage? Is the owner of the building going to be using the building during construction? is the contractor going to be permitted to place construction trailers on the asphalt parking lot for this building? Is the contractor required to repair any damage to this building or its infrastructure? It would be better to require the contractor to excavate X inches in an area directly behind the XTRA building and establish a staging area on a location we have cleaned and cleared. This will avoid potential problems with the building's owner and also prevent damage to existing buildings or infrastructure.	It will be up to the Contractor to set up the staging area according to the equipment and facilities that they require. Regardless of where they set up, they will be required to make sure that they are setting up on clean portions of the site, or excavate and remove contaminated soil to ensure they are on clean soil. Buildings will not be used for staging.	Please add bullet specifying this regardless of where they set up that the area is clean.		--
133	C-003	USACE	Limits of excavation should be established around existing structures to prevent damage. What do we do if we encounter a vein of consolidation material that runs under or towards one of these structures? Recommend noting existing structures that are currently expected to remain.	All buildings that are remaining on site will be given a 15' buffer. There is also a buffer on the access roads/driveways to these buildings so that operation may continue.	Concur		--
134	C-005	USACE	Is subgrade compaction required at this step to reduce ground infiltration potential of contaminants?	Yes. Bottom of excavated Consolidation Area will need to meet subgrade compaction requirements.	Recommend adding callout to this effect.		--
135	C-008	USACE	This roughly triangular portion of the property appears to contain raised elevations and dense vegetation; if this material is not designated for removal due to contamination, or required for reuse as cover material, recommend minimizing unnecessary costs associated with clearing and grading this portion of the property.	Clearing limits will be limited to access road and areas requiring removal due to contamination.	Concur		--

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136	C-009	USACE	The back lot of this business is shown to be inside of construction limits, are we actually going to be excavating within this property or is the intent to avoid excavating this lot.	The intent is to avoid the lot. The final BODR will update construction project limits.	Concur		--
137	C-009	USACE	Sequence does not describe when ditch installation is required.	Ditch installation will evolve as grading work is performed. This is a multi-sequence item. All ditches will be graded into the existing ditches prior to topsoil application.	Recommend adding callout to this effect.		--
138	C-009	USACE	What is meant by "remediate" in this context? Is there a toxicity treatment to be added? Is turf establishment able/specified to begin in some areas earlier than others to reduce acreage of exposed ground (Storm water BMP_?	Remediate is not the accurate word. All that is being done is placing topsoil, seeding, mulching, and placing erosion control. Text will be changed.	Concur		--
139	C-009	USACE	Will there be any permanent fencing installed around the completed consolidation cell? If so, please include a relevant specification section.	No.	Concur		--
140	C-009	USACE	App. B shows ditches connecting to existing drainage systems at the SW and NW of the property on approximate slopes ranging from 0.001 to 0.003. These do not appear clear in the drawings, and invert elevation information to achieve design requirements appears missing.	Flow arrows, spot elevations, and slope percent will be added to design drawings.	Concur		--
141	C-009	USACE	Ditch locations are difficult to differentiate in this sheet; recommend using a separate linestyle/color/other method to show all ditches. Could potentially show ditches on a separate plan sheet.	Ditches will be changed to be more visible.	Concur		--
142	C-009	USACE	No liner or specific grass type recommended? If not, this creates a potential for stormwater pollution. Additionally, if current groundwater, ditch slope and outfall conditions are not corrected, these channels will be inundated a significant portion of the time, and vegetation should be selected appropriately	More detail will be added to ditch typical section including final stabilization.	Concur		--
143	C-009	USACE	It would help to note which existing buildings are expected to remain at the completion of the project. Also, which buildings are expected to remain in use by its owner during construction.	Buildings to remain will be outlined.	Concur		--
144	C-010	USACE	Recommend considering use of Evapotranspiration (ET) Cap design (beyond grassed surface) to reduce runoff and mowing requirements.	Evapotranspiration Cap will not be considered as it was not included in the ROD, the design is already at a prefinal state, and the stormwater calculations are completed for the current prefinal state.	Concur		--
145	C-010	USACE	The transition from approximately 1:30 to 1:4 slope has the potential to increase erosion due to runoff at this portion, potentially damaging the cap. Recommend considering use of hydroseed, sod, or other materials to quickly provide protection at this transition point and steeper slope.	Hydroseeding will be added to erosion prevention and sediment control drawings.	Concur		--
146	C-010	USACE	Significantly lowering the ground around the detention in this way may result in localized inundation of the slope for significant periods of time, potentially killing protective vegetation.	To ensure appropriate grading is performed, HEC-RAS modeling will be performed. Results will deem necessity to widen the ditch in this area or need to extend grading of consolidation area sub-grade cap to top of existing ditch bank.	Agree with methodology; it may also be helpful to present ditch profile(s) with entry point elevations (e.g. the area around the cell) and the interceptor inverts (existing exterior ditches/culverts) to demonstrate head differential, length and subsequent slope(s).		--
147	C-011	USACE	How can channels constructed to pass a design-storm runoff do so with this type of constriction in place? Using the weir equation: $Q=CLH^{1/2}$ with $C=2.5$, $L=6$, and $H=1$ - the flow is only 15 cfs...	Moving sediment traps out of the existing ditches and providing BMPs such as interceptor swales to convey construction site runoff to appropriately sized sediment traps that will either filter out into ditch or overtop with large rain event and into ditch.	Concur		--
148	C-011	USACE	Ensure that "SELECT FILL" and "SELECT EARTH FILL" are specified. Recommend also using consistent term (all references read "SELECT FILL" or "SELECT EARTH FILL", not both)	Select Earth Fill is maintained.	Concur		--
149	C-011	USACE	Will a permanent fence be placed around the cell once the cell is fully constructed? No other chain link fencing is mentioned in the specifications, please include a specification section for chain link fencing installation.	No fence will be placed around the consolidation cell upon completion.	Concur		--

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150	C-011	USACE	"or" not "on" in sediment trap detail	Text will be updated to state "or".	Concur		--
151	Appendix C	USEPA				Section 01 11 00 Summary of Work is missing a groundwater and surface water monitoring plan, as well as, an institutional control and implementation plan, quality assurance project plan, operation and maintenance plan, Performance Standard Verification Plan, and Field Sampling Plan. These are also missing from the submittal register. If they are included in another plan please indicate so otherwise add them to the BODR. The QAPP must be developed in accordance with EPA Requirements for Quality Assurance Project Plans, QA/R-5, EPA/240/B-01/003 (Mar. 2001, reissued May 2006); Guidance for Quality Assurance Project Plans., QA/G-5, EPA/240/R 02/009 (Dec. 2002); and Uniform Federal Policy for Quality Assurance Project Plans, Parts 1 3, EPA/505/B-04/900A though 900C (Mar. 2005).	These plans will be added to Section 01 11 00 Summary of Work. Please note the Institutional Controls and Implementation Plan is not typically completed by the constructor, but rather by EPA. CH2M can prepare this plan on behalf of the EPA if instructed. The O&M plan has been completed by CH2M as part of the design and will be updated as needed after completion of the RA (this will be clarified in Section 01 11 00 Summary of Work).
152	Appendix A	USEPA				Appendix A Calculation Title & Description: Title: Global Stability and Settlement of the Eagle Zinc on Site Management Cell The title indicates it's for Eagle Zinc and the description states OAZ. Is it for Eagle Zinc or OAZ?	The calculations are for Old American Zinc Consolidation Area. The title page was updated.
153	Section 1.3	USEPA				Section 1.3 states Contaminated soil from the identified residential, commercial/industrial, vacant properties, or village alleyways above the applicable residential or commercial/industrial human health cleanup levels (Operable Unit 2) will also be placed in the consolidation area. OAZ does not have any defined Operable Units. Operable Unit 2 should be removed.	Operable Unit 2 was deleted from Section 1.3.
154	General	USEPA				Is there a reason the cleanup levels were not included in the BODR for the Facility Area like they were included in the Surrounding Area? It would be nice for the cotnractor to know what level they need to cleanup to in what area in one document.	The cleanup levels will be added to the Section 1.3 of the BODR.